

§Appl. No. 10/017,393  
Amdt. dated October 22, 2004  
Reply to Office Action of, July 27, 2004

**Listing of Claims:**

**Claim 1 (Previously Presented)** An isolated human H2R polynucleotide which codes without interruption for an amino acid sequence set forth in SEQ ID NO 2, or a complete complement thereto.

**Claim 2 (Currently Amended)** An isolated human H2R polynucleotide comprising, a polynucleotide sequence having 95% or more sequence identity along the entire length of the polynucleotide sequence set forth in SEQ ID NO 1 and which codes without interruption for H2R, or a complete complement thereto, wherein said polynucleotide hybridizes under high stringency conditions comprising 5X SSC, 0.5% SDS, 100 µg/ml denatured salmon sperm DNA and 50% formamide, at 42°C to the complete complement of the sequence set forth in SEQ ID NO:1, and wherein said polynucleotide codes for a polypeptide that, has H2-receptor activity upon activation by histamine, leads to the accumulation of cAMP.

**Claim 3 (Previously Presented)** An isolated H2R polynucleotide, comprising: a polynucleotide coding for amino acids 360-422 of SEQ ID NO 2, specific fragments thereof which hybridize specifically under high stringent conditions to the polynucleotide sequence from nucleotide positions 1180-1368 as set forth in SEQ ID NO:1, or complete complements thereto.

**Claim 4 (Previously Presented)** An isolated H2R polynucleotide of claim 3, consisting of: a polynucleotide coding for amino acids 360-422 of SEQ ID NO 2, or a complete complement thereto.

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**Claim 5 (Previously Presented)** An isolated H2R polynucleotide of claim 3, wherein said fragment is effective in a polymerase chain reaction.

**Claim 6 (Previously Presented)** An isolated human H2R polypeptide coded for a polynucleotide of claim 1, comprising: the amino acid sequence set forth in SEQ ID NO 2.

**Claim 7 (Previously Presented)** An isolated human H2R polypeptide coded for a polynucleotide of claim 2, comprising: an amino acid sequence having 95% or more sequence identity to the amino acid sequence set forth in SEQ ID NO 2.

**Claim 8 (Previously Presented)** An isolated H2R polypeptide coded for by a polynucleotide of claim 3,  
coding for amino acids 360-422 of SEQ ID NO 2 or specific fragments thereof.

**Claim 9 (Previously Presented)** An isolated H2R polypeptide of claim 8, consisting of: amino acids 360-422 of SEQ ID NO 2.

**Claim 10 (Previously Presented)** A method for identifying an agent that modulates the biological activity of a human H2R in mammalian cells expressing a human H2R of claim 2, comprising:  
contacting mammalian cells expressing human H2R with a test agent under conditions effective for said test agent to modulate the biological activity of said human H2R, wherein said cells are transformed with a polynucleotide construct comprising an expressible human H2R polynucleotide, whereby said H2R expression is achieved, and  
determining whether said test agent modulates said H2R.

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**Claim 11 (Previously Presented)** A method of claim 10, wherein said agent is a polynucleotide coding for a peptide selected from amino acids 360-422 of SQ ID NO 2.

**Claim 12 (Previously Presented)** A method of claim 10, wherein said human H2R has the amino acid sequence set forth in SEQ ID NO 2.

**Claim 13 (Currently Amended)** ~~A~~ An isolated transformed mammalian cell comprising:  
a polynucleotide construct comprising a human H2R polynucleotide of claim 2  
operatively linked to an expression control sequence.

**Claim 14 (Currently Amended)** ~~A~~ An isolated transformed cell of claim 13, wherein said human H2R polynucleotide has the sequence set forth in SEQ ID 1.

**Claim 15 (Currently Amended)** ~~A~~ An isolated transformed cell of claim 13, wherein said human H2R polynucleotide has the amino acid sequence set forth in SEQ ID 2.

**Claim 16 (Currently Amended)** ~~A~~ An isolated transformed cell of claim 13, wherein said expressible human H2R polynucleotide is integrated into the chromosome of said cell.

**Claim 17 (Previously Presented)** An isolated antibody which is specific for a polypeptide having amino acids 360-422 of SEQ ID NO 2, or specific fragments thereof.

**Claim 18 (Previously Presented)** An isolated human H2R polynucleotide of claim 1, comprising the polynucleotide sequence from nucleotide positions 103-1368 as set forth in SEQ ID NO:1, or a complete complement thereto.

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**Claim 19 (Previously Presented)** An isolated H2R polynucleotide of claim 3, wherein said polynucleotide comprises the polynucleotide sequence from nucleotide positions 1180-1368 as set forth in SEQ ID NO:1.